

# Optimizing Web-Based Information Dissemination: Innovations of Research Institutions' For Entrepreneurs in Nigeria

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**ABSTRACT:** This study evaluated opportunities for improving research institutes' strategy for moving examination information to MSMEs which could be found in the contrasts between what the examination writing recommends that examination associations ought to do through ICT particularly open site model. This counted with what the heads of examination associations said about data dispersal path back. The examination overviewed some wellbeing research foundations and monetary/social exploration associations in Nigeria, with respect to how their associations move research information to chiefs and overall population. There are two examination destinations: (1) to survey the degree to which exploration foundations were moving examination information in manners predictable with our comprehension of the examination proof, and (2) to inspect whether the areas or target-crowd direction clarified any variety in their reactions. The examination utilized financial attributes of the focused on exploration organizations, the number of inhabitants in their scientists and technologists and the focused on crowd in dispersal.

**Keywords:** information and communication technology, research knowledge, Research Institutes, Entrepreneurs, Optimization

## I. INTRODUCTION

Information communication Technology (ICT) through Internet administration is a methods which dependent on web innovation of informal organization to run its administration. Nowadays the extent of web has spread to all regions of the general public and has gotten one of the devices of broad communications correspondence with more prominent site and online journals. Web has given extraordinary office by its brisk, immediate and wide scope of data dispersal. Then again Information scattering network media has different

faults because of being dispersive, monstrous and wild which may result into general assessment issue by spreading bogus or counterfeit data. Thusly this exploration paper is a stunner for more examination to be directed on proliferation component of data on open site which can be some assistance towards better utilization of inward office. The examination on proliferation system of data on open destinations joined by some other ICT offices which can be some assistance towards better utilization of web office and break down the method of data dispersal.

### 1.1 Related work (Speculations and Models that informed the study)

Several theories/ models in Information Science that identify with approaching and usage of examination discoveries were inspected. These included, the Adaptive Structuration Theory (AST) by Anthony Giddens, in, GerardineDeSanctis and Marshall Scott Poole (1994)- AST contemplates the communication of gatherings and associations with data innovation scrutinizes the techno driven perspective on innovation use and accentuates the social viewpoints. Gatherings and associations utilizing IT for their work progressively make recognitions about the job, utility and use of innovation. These observations shift across gatherings and impact the manner in which innovation is utilized (DeSanctis and Poole, 1994). The Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkateshet. Al., (2003 pp425-478) intends to disclose client aims to utilize an Information System (IS) and resulting use conduct. The hypothesis holds that four key develops (execution anticipation, exertion hope, social impact, and encouraging conditions) are immediate determinants of utilization goal and conduct (Venkatesh et. al., 2003).

## II. METHODOLOGY

### 2.1 Methods of data collection

The techniques utilized in gathering information for this investigation comprised of semi organized individual meetings, centered gathering interviews, assessment of authentic reports and individual perception. The selection of different strategies or triangulation in social examination has been supported by different scientists since they help to defeat defects inborn in the utilization of one strategy. The information was gathered utilizing pre-organized meeting plan. Techniques like Focused Group Discussions were utilized. An organized poll was directed while oral meeting supplemented the survey. An aggregate of 230 respondents were haphazardly chosen. Data on the respondents' view of the jobs showed by people in the examination and enterprises; and especially accessibility of ICT offices and admittance to ICTs were evoked. Expressive measurements was utilized to examine a portion of the information, Kruskal Wallis rank test was utilized to explore whether there was a critical distinction in sex admittance to ICTs and T-Test investigation was utilized to test the connection between the financial qualities (age, insight and instructive foundation) of the MSMEs and their admittance to ICTs. The formula for computing Kruskalwalis rank test is: **Decision Rule**

The rejection region for the H test is  $H > X_2$  where  $X_2$  is based on (k-1) degree of freedom ( $p < 0.05$ ). The formula for computing Chi-square is: 2

$$X_2 = \sum \frac{(f_n - f_e)^2}{f_e}$$

where  $f_n$  = observed frequencies in each cell;  $f_e$  = Frequencies in each cell.

$f_e$  can be computed as:  $f_e = \frac{R \times C}{N}$

where, R = Row total, C = column total, and N = Number of cases.

#### Decision Rule

If  $X_2$  calculated is greater than  $X_2$  - tabulated the null hypothesis

(H) is rejected and the alternative hypothesis (H) is accepted and if otherwise, the H0 is accepted.

Degree of freedom is  $(C - 1)(R - 1)$

And  $P < 0.05$ .

## III. RESULT AND DISCUSSION

Table 1 revealed that 36.5% of the respondents were within the ages 31 to 40 years, 40.8% said they were within ages of 41 to 50 years, 22.6% were found to have fallen within the ages 51 to 60 and those that fell within the range of ages over 60 years were minority in the institutes. This implies that majority of the respondents were in their youthful and active age which will enable them participate in ICT sufficiently.

**Table 1.** Socio-Economic characteristics of the respondents (n=230).

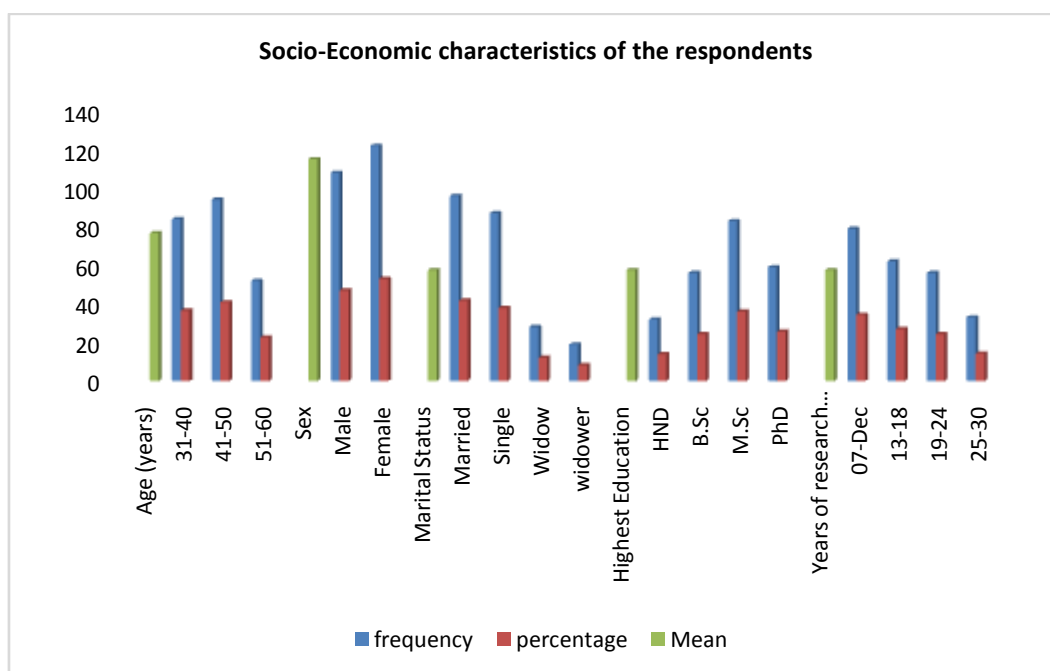
Personal data	frequency	percentage	Mean
Age (years)			76.7
31-40	84	36.5	
41-50	94	40.8	
51-60	52	22.6	
Sex			115
Male	108	47.0	
Female	122	53.0	
Marital Status			57.5
Married	96	41.7	
Single	87	37.8	
Widow	28	12.1	
widower	19	8.26	
Highest Education			57.5
HND	32	13.9	
B.Sc	56	24.3	
M.Sc	83	36.0	
PhD	59	25.6	
Years of research experience			57.5
7-12	79	34.3	
13-18	62	27.0	
19-24	56	24.3	
25-30	33	14.3	

**Table 1.1 T-Tests**

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
Frequency	17	67.65	29.707	7.205
Percentage	17	29.3800	12.91659	3.13273
Mean	5	72.840	24.9916	11.1766

**Table 1.2 One-Sample Test**

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Frequency	9.389	16	.000	67.647	52.37	82.92
Percentage	9.378	16	.000	29.38000	22.7389	36.0211
Mean	6.517	4	.003	72.8400	41.809	103.871



**Figure 1: Socio-Economic characteristics of the respondents**

The table also revealed the mean of socioeconomic characteristics of the respondents as 76.7, 115, 57.5, 57.5, 57.5 respectively for Age, Sex, Marital status, Highest Education and Year of

research experience. It indicated that the percentage researchers with M.Sc. are high which 36.0 is, and also the researchers with experience are at close range of 34.3, 27.0 and 24.3.

**Table 2: Research institutes and the researcher/technologist - 230**

RESEARCH INSTITUTES	LOCATIO N	SCIENTIST S	%	TECHNOLOGI STS	%
The Cocoa Research Institute of Nigeria [CRIN]	Ibadan	21	9.1	11	4.8
Federal Institute of Industrial Research Oshodi	Lagos	26	11.3	14	6.1

(FIIRO)					
The Forestry Research Institute of Nigeria (FRIN)	Ibadan	17	7.3	9	3.9
Nigeria Institute for Oceanography and Marine Research (NIOMR),	Lagos	13	5.7	11	4.8
Institute for Agricultural Research and Training IAR&T	Ibadan	12	5.2	10	4.3
Nigerian Building and Road Research Institute (NBRRI)	Lagos	16	7.0	8	35
National Institute for Medical Research NIMR)	Lagos	14	6.1	7	3.0
National Horticulture Research Institute (NIHORT),	Ibadan	13	5.7	11	4.8
National Agency for Science and Engineering Infrastructure (NASENI)	Lagos	11	4.8	6	2.6
Total		143	62.2	88	38.3

Table 3 revealed that research location of study is western part of Nigeria. The study shows that both scientist and technologists are the research force of research institutes. The analysis shows that 62.2% of the respondents were the scientists, 38.3% were the

technologists that formed the research team in the 230 respondents. This implies that majority of the respondents are in one field of research or the other and actively involved in dissemination of their research findings in information.

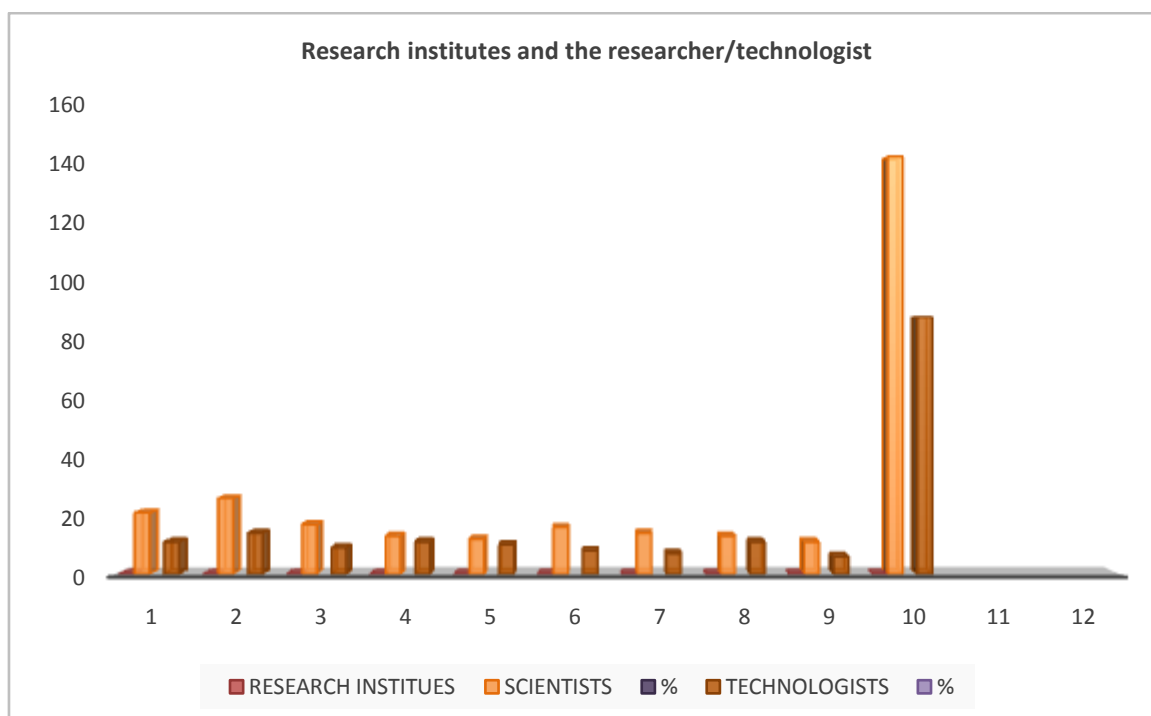


Figure 2: Research Institutes and the Researcher/Technologist

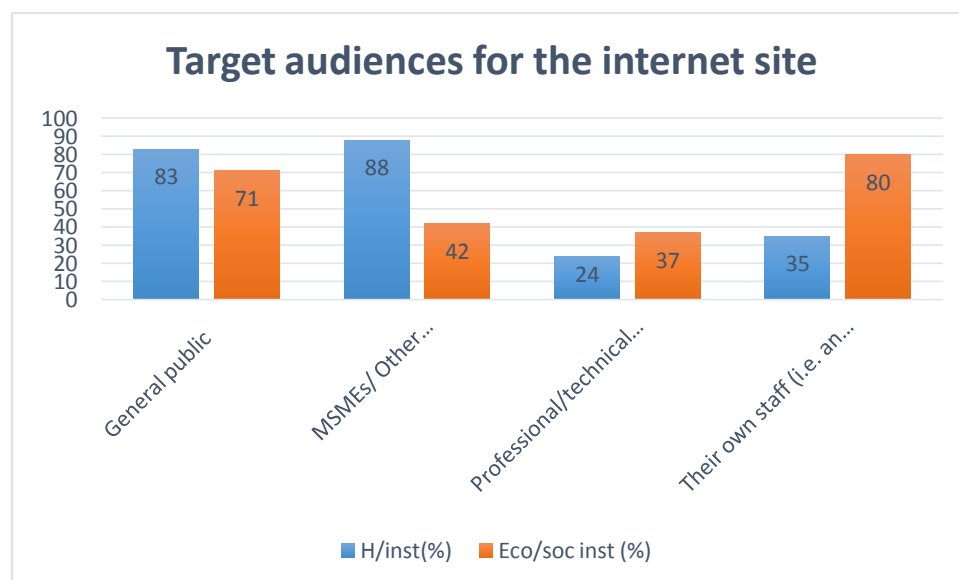
Fig. 2 is the graphic representation of the scientists and technologists in research institutes under this study. There is an indication that the

scientists are more in number and the technical performances of the technologists is highly needed in the research work.

**Table3:Targetaudiencesfortheinternetsite.**

Target audiences	H/inst(%)	Eco/socinst (%)
General public	83	71
MSMEs/ Other businesses	88	42
Professional/technical support	24	37
Their own staff (i.e. an intranet)	35	80

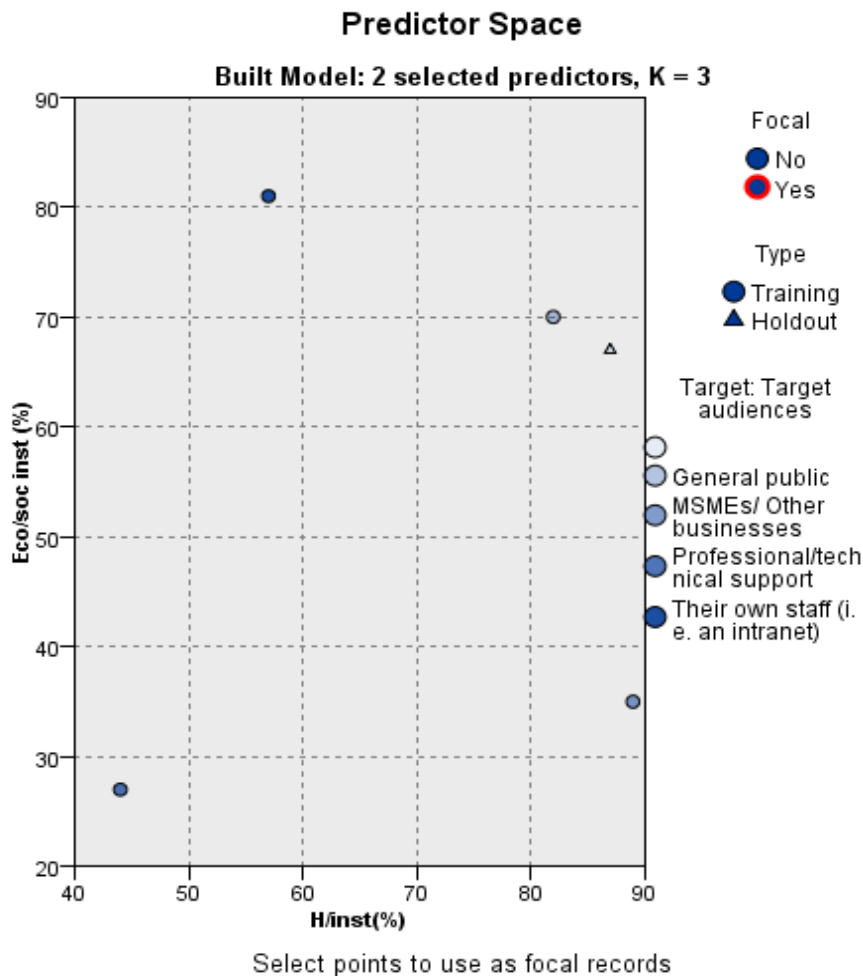
Source:Author survey(2016).



**Figure 3:** Target Audiences for the Internet Site.

**Table 4: Nearest Neighbor Analysis**

Case Processing Summary		N	Percent
Sample	Training	4	80.0%
	Holdout	1	20.0%
Valid		5	100.0%
Excluded		0	
Total		5	



**Figure 4:** Target Audiences for the Internet Site vs.

The focal records to the nearest neighbor are 70 and 82 that predicts that the general public as target for built model will be high and  $K = 3$ .

# Setting number of neighbors = 3

$k = 3$

# Running KNN model result,  $neigh = knn(data, test, k)$

# predicted class print (result) -> Target Audiences

# 3 nearest neighbors print (neigh) -> [83, 71, and 37]

Both categories of research institutes have greater capacity to diffuse their developments to overall population utilizing their site as a specialized instrument of advancement dispersal. The level of each is 83 and 71 individually. The wellbeing organizations have greater capacity to diffuse their development to MSMEs/other

business more in a level of 88. This is highlighting the way that overall population visits web all the more regularly which help to sell Research Finding Website model – Research Innovation System (RIS) worked in this examination work to the overall population and MSMEs have more ability to diffuse their innovation to general public using their website as a communication tool of innovation dissemination. The percentage of each is 83 and 71 respectively. The health institutes have more ability to diffuse their innovation to MSMEs/other business more in a percentage of 88. This is pointing to the fact that general public visits internet more often which help to sell Research Finding Website model – Research Innovation System (RIS) built in this research work to the general public and MSMEs.

#### IV. CONTRIBUTION TO KNOWLEDGE

The major contribution to the new knowledge is the Research finding Information Systems (RFIS) model based on the research findings to explain strategies to ensure effective application of Website to the accessing and utilizing research information by the MSMEs. In other words, the research created more awareness and understanding of the issues mentioned below,

- i. Established research based MSMEs needs
- ii. Research based challenges faced by the MSMEs
- iii. Research based solutions to the challenges- RIS model

#### V. CONCLUSION AND RECOMMENDATION

Conclusions summarized below are based on the data gathered during the conduct of this study. The volume and level of ICTs use was not similarly disseminated among the contextual investigations due to differentials in the accessibility of ICTs offices, PC and data proficiency methods to utilize ICTs, condition of accessibility of foundation and capacity to gain the ICTs.

There is need for this exploration development framework model (RIS model). Government should help research world with ICT frameworks to empower the examination discovering models to run adequately. The examination officials should attempt to be ICT consistence in this piece of the nation where individuals run from advanced change.

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